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THE FARM INDEX

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THE \$ ROUNDUP: TEAMWORK AND TRADE

ALSO: FRINGE UNBENEFITS • CAN YOUR AREA PROFIT FROM PROCESSING? • ISLANDS EYE PURE MARKET • FOOD STOCKS FOR AN EMERGENCY



Economic Trends



ITEM	UNIT OR BASE PERIOD	'57 - '59 AVERAGE	1963		1964		
			YEAR	APRIL	FEBRUARY	MARCH	APRIL
Prices:							
Prices received by farmers	1910-14=100	242	241	242	240	240	236
Crops	1910-14=100	223	238	244	242	243	244
Livestock and products	1910-14=100	253	244	240	238	237	230
Prices paid, interest, taxes and wage rates	1910-14=100	293	312	312	313	313	314
Family living items	1910-14=100	286	298	297	299	298	300
Production items	1910-14=100	262	273	273	271	272	272
Parity ratio		83	78	78	77	77	75
Wholesale prices, all commodities	1957-59=100	—	100.3	99.7	100.5	100.4	100.3
Commodities other than farm and food	1957-59=100	—	100.7	100.4	101.2	101.1	101.1
Farm products	1957-59=100	—	95.7	95.4	94.5	95.2	94.5
Food, processed	1957-59=100	—	101.1	99.3	100.9	100.5	100.4
Consumer price index, all items ¹	1957-59=100	—	106.7	106.2	107.6	107.7	—
Food	1957-59=100	—	105.1	104.3	106.0	105.7	—
Farm Food Market Basket:²							
Retail cost	Dollars	1,037	1,078	1,071	1,079	1,076	—
Farm value	Dollars	410	394	391	393	395	—
Farm-retail spread	Dollars	627	684	680	686	681	—
Farmers' share of retail cost	Per cent	40	37	37	36	37	—
Farm Income:							
Volume of farm marketings	1947-49=100	123	136	104	115	114	111
Cash receipts from farm marketings	Million dollars	32,247	36,248	2,257	2,409	2,397	2,330
Crops	Million dollars	13,766	16,706	670	955	786	700
Livestock and products	Million dollars	18,481	19,542	1,587	1,454	1,611	1,630
Realized gross income ³	Billion dollars	—	41.1	—	—	41.2	—
Farm production expenses ³	Billion dollars	—	28.8	—	—	29.2	—
Realized net income ³	Billion dollars	—	12.3	—	—	12.0	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	5,585	500	525	531	—
Agricultural imports	Million dollars	3,977	4,011	348	294	381	—
Land Values:							
Average value per acre	1957-59=100	—	—	123 ⁴	128 ⁵	131 ⁶	—
Total value of farm real estate	Billion dollars	—	—	143.6 ⁴	148.7 ⁵	150.8 ⁶	—
Gross National Product ³							
Consumption ³	Billion dollars	456.7	585.1	571.8	—	608.5	—
Investment ³	Billion dollars	297.3	373.1	367.4	—	388.0	—
Government expenditures ³	Billion dollars	65.1	82.3	77.8	—	85.0	—
Net exports ³	Billion dollars	92.4	125.1	123.0	—	129.0	—
	Billion dollars	1.8	4.5	3.6	—	6.5	—
Income and Spending:⁷							
Personal income, annual rate	Billion dollars	365.2	463.0	457.4	478.8	480.9	483.1
Total retail sales	Million dollars	17,105	20,534	20,276	21,533	21,305	21,244
Retail sales of food group	Million dollars	4,159	4,926	4,864	4,991	5,157	—
Employment and Wages⁷							
Total civilian employment	Millions	64.9	68.8	68.8	69.8	69.8	70.6
Agricultural	Millions	6.0	4.9	5.0	4.8	4.6	4.7
Rate of unemployment	Per cent	5.5	5.7	5.7	5.4	5.4	5.4
Workweek in manufacturing	Hours	39.8	40.4	40.1	40.3	40.4	40.4
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.46	2.44	2.51	2.51	2.52
Industrial Production ⁷	1957-59=100	—	124	123	128	128	129
Manufacturers' Shipments and Inventories^{7, 8}							
Total shipments, monthly rate	Million dollars	28,736	34,774	34,578	36,278	36,372	—
Total inventories, book value end of month	Million dollars	51,158	58,807	58,309	60,108	60,233	—
Total new orders, monthly rate	Million dollars	28,374	35,036	35,752	36,696	36,722	—

¹ Beginning Jan. 1964, new ser. ² Av. ann. quantities of farm food products based on purchases per wage-earner or clerical-worker fam. in 1952—est. mon. ³ Ann. rates seasonally adj. 1st qr. ⁴ As of Mar. 1. ⁵ As of Nov. 1, 1963. ⁶ As of Mar. 1. ⁷ Seasonally adj. ⁸ Rev. ser. Sources: U.S. Department of Agriculture (Farm Income Situation, Mar-

keting and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Department of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Department of Labor (The Labor Force and Wholesale Price Index).

For some commodities, large short-run changes in output and use are an everyday or every-year fact of life. But for milk, "little change from last year" seems to be more the rule than the exception. It is necessary to look beyond the relatively minor monthly or yearly fluctuations to get an idea of the future—in output and use.

First, consider the nation's dairy herd: It is getting smaller. Cow numbers have been going down nearly every year since World War II; they dropped below 20 million by 1957 and are down to less than 17 million now. A further slide to about 15 million is likely by 1970.

Why has the cow herd been getting smaller? Because fewer farmers are keeping just a few cows to milk. Many farmers formerly in this category—and some former dairymen—have become specialists in other lines, devoting all their time to producing such things as meat or wheat or cotton. And some dairymen have quit farming for other occupations. Result: Less than a million farms with dairy cows by 1970—down from 1.8 million as recently as 1959.

Output Steady: But milk production, after a postwar rise, has steadied in the past few years at about 125 billion pounds annually. And it may stay near this level for the next several years. True, there are fewer cows, fewer dairymen . . . But they are streamlining their operations, their herds are getting bigger, and milk output per cow keeps going up—from less than 5,000 pounds in the 1940s and 7,500 now to more than 8,000 pounds just a few years hence. Many commercial herds are already in the 15,000 pound class.

Today's bigger and more efficient herds help dairymen combat a continuing cost-price squeeze. The farm price of milk has stayed at a little over \$4 per 100 pounds in recent years,

but costs of dairying have been rising steadily.

Retail Revolution: Remember how the depth of the cream line in a bottle of milk used to tell its worth? Today most folks seldom see the milk when they buy it; instead, they look at a carton and it tells them the milk inside has been pasteurized, homogenized, vitamin-enriched, and checked by health authorities . . .

Quite a change. But no more dramatic than other kinds of changes that have been taking place in the various dairy products—the gaining popularity of low-fat milk, nonfat dry milk, cheese; the ground lost by butter and evaporated milk.

For example, cottage cheese use has nearly doubled since 1950, and so has nonfat dry milk consumption. But butter use dropped from more than 1.6 billion pounds in 1950 to less than 1.3 billion last year.

Consumption Trends: Considering all the ups and downs of the various forms in which milk is sold, two trends in usage emerge:

—A continuing small gain in total use from population growth and from the government taking what the market will not absorb and putting it to work in programs for the needy and school children, and shipments abroad under Public Law 480.

—A continuing slow decline in use of milk solids per person, with gains in low-fat items not quite compensating for the dwindling popularity of high-fat products, especially butter and cream.

This Year's Dairy Outlook: As in most past years, 1964 dairy statistics may undergo "little change from last year": Milk production up perhaps a billion pounds from the 124.8 billion last year; cash receipts from farm marketings



the agricultural outlook

of milk and cream up 1 or 2 per cent with total consumption edging up.

Cookout Lookout: Many backyard chefs will be upgrading their status this summer by serving beef steaks more often . . . They are plentiful and priced below last summer, as are other beef cuts. Per capita consumption will probably be above last summer.

Lamb chops, another meat item often charcoal broiled, will be less plentiful than last summer. Consumers will likely find prices up a little—smaller lamb and mutton production than last year is expected.

Pork output drops off seasonally in the warm months. And supplies this summer will be a little less abundant than last year . . . Retail prices may go slightly above last summer's levels.

Topsy-Turvy Soybean Prices: Soybean prices most years are lowest during harvest in the fall and highest the following spring. The pattern was reversed this marketing year, it may return to normal for the next one.

Farm prices in the 1963-64 year peaked last fall at \$2.66 a bushel. They were down about 20 cents in May and will probably slip a little more before the 1964-crop harvest next fall.

Last fall's high prices resulted from prospects for a bigger export market than in 1962-63, a continued strong domestic demand for soybean meal and a very small carryover of 1962-crop beans.

Exports for the year may go 10 million bushels above last year. But domestic demand is sagging; crushings may be down 35 million bushels. Reasons: The reduced crusher margins for oil and meal relative to soybeans, the record supply of edible vegetable oils, and the reduced demand for soybean meal, mostly due to unfavorable feed-livestock price ratios.

The October 1 carryover of old-crop beans may be three times the 15 million bushels of

last fall, and acreage intended for the 1964 crop was up 8 per cent from last year.

Cigars and Pipes: Gaining. For several weeks following the mid-January release of the report on smoking and health by the Surgeon General's Advisory Committee, cigarette sales dropped sharply; then in March they showed some recovery. But for the entire first quarter of 1964, taxable removals of cigarettes—a measure of manufacturers' shipments to domestic outlets—dropped 11 per cent below a year earlier and represented the smallest first quarter total in five years. Taxable removals of cigars and cigarillos rose 34 per cent and smoking tobacco (mainly for pipes), 40 per cent. Taxable removals of small cigars (cigarette size) were more than six times those of January-March 1963.

Smallest Wheat Supply in Seven Years: Although the combined winter and spring wheat crop for 1964 is expected to turn out larger than last year, the carryover of old-crop wheat as of July 1, 1964, will likely be the smallest since 1958—probably 300 million bushels below the 1.2 billion of a year earlier.

Tax Cut Effect? Is last February's tax cut starting to take hold? Evidently it is, but more slowly than expected. Anticipating the tax cut, consumer spending in February pushed retail sales to a level nearly 6 per cent above a year earlier. Sales slowed during March and April from the brisk February pace but continued at a high level, around 5 per cent above a year earlier. By mid-May, sales were rising again.

Gains in spending related to the tax cut apparently are more than compensating for slow-downs in some areas: Defense spending was little changed from a year earlier and the rise in construction activity—particularly apartments—tapered off. But industrial production gained sharply in April and prospects are for continued gains in output and employment during the rest of 1964. With rising incomes and an expanding population, domestic spending for food and other farm products is expected to continue rising . . . probably at a faster pace than last year.



The Abbot family has tilled the same land near Rapidton for over three generations. And if the members haven't grown rich they have made a good living.

The present generation of Abbots—Luke, his wife and children—face a problem unknown to their forebears.

As Rapidton has spread out, real estate taxes on the Abbot farmland near town have spiralled—and without any accompanying rise in farm income.

These real estate taxes are based on the farmland's market value, not the farm's income. "Unfair," say some of Luke Abbot's neighbors.

But Rapidton needs more money, as most towns do. And having no other source of revenue to draw upon, the town depends on real estate taxes to finance public services.

Some of Luke Abbot's neighbors feel that depending too much

on real estate taxes speeds land into commercial hands by squeezing the farmer's income and forcing him to sell.

The Pritchards on the other side of Rapidton were farmers, too, and, faced with rising taxes, sold out to developers.

People in Rapidton still speak of the Pritchards' fine stand of timber near town and recall what a nice park the land would have made.

For many other local and state governments, taxation of farmland surrounding growing towns and cities is a burgeoning, controversial problem.

Maryland, for example, amended its constitution in 1956 to provide for the assessment of farmland on the basis of agricultural use and farm income instead of market value.

But this raised the question of what constitutes "agricultural use" and also the problem of who

is to make the decision.

In practice, the Maryland assessor must decide whether a field in which a horse grazes, for example, is or isn't "land used in agriculture." He also decides whether to assess all or part of the land at the low rate.

Californians, by contrast, voted down a constitutional amendment in 1962 that would have limited assessments on farmland.

An alternative idea that has been discussed is authorizing some public body to decide which land should be set aside for eventual parks and other recreation areas and taxing it accordingly. Such land can include farmland as well as watersheds, marshes and other open land. Connecticut has set up a program based on this idea.

Meanwhile Luke Abbot, his neighbors, and the people back in Rapidton continue to debate the problem. (1)

Texas Stays Tops in Cattle Business; Other States Shift Places in Top 10

Texas is still top hand in the cattle business. But other states have shifted places in the January 1 rankings by livestock numbers on farms. Among the top 10 in numbers of all cattle and calves, Missouri is now No. 7, changing places since last year with Wisconsin, now No. 8.

South Dakota (9) and Illinois (11) also traded places in the ranking as Illinois dropped out of the top 10. North Dakota took a giant step from twentieth last year to fifteenth this year.

Breaking the "all cattle and calves" category down into its parts, Texas leads in the number of beef cows two years and over and in total beef cattle and calves. But the state trails tenth in milk cows two years and over with Wisconsin in first place. New Mexico, ranked forty-fourth, was the only state to gain in number

of dairy cows on farms.

Wisconsin had 1.0 million more cows two years old and over than Minnesota, the second-place state. California (5) and Michigan (7) each moved up one position, and Iowa (6) and Ohio (8) each dropped in number of milk cows. Only five states didn't change.

Iowa, which is second in the nation in beef cattle and calves, is far and away the No. 1 state for numbers of pigs saved from December-May and June-November pig crops. With 20.3 million pigs it leads second-place Illinois by almost 7.4 million head. The top 10, except for Kentucky (10), are all in the North Central Region. Their rankings have not changed since last year.

All but four states had fewer sheep and lambs on farms on January 1, 1964, than a year earlier. Of the top 10, all of which are west of the Mississippi, California moved ahead of Colorado to third place, the reverse of what happened last year. (2)

farmers spent an average of \$454 per cow for expansion and improvement of stall barns with milking parlors, \$377 for adding pipeline milking systems to existing barns and \$373 for expanding for a loose housing system. However, the size of herd had a good deal to do with which system was the cheapest for the individual farmer.

A closer look at the experiences of the Wisconsin producers revealed that a remodeled stall barn with milking parlor was the lowest-cost method of expansion for herds up to 45 cows. Beyond this point, additional investment per cow was the highest of the three systems. However, this type of expansion involved fewer and less costly changes from a conventional stanchion barn setup than did the addition of a loose housing system.

Between 45 and 72 cows, installing a pipeline system in a remodeled stanchion barn required the least added investment of the three choices and involved a minimum of problems in making the changeover. The farmers with larger herds tended to invest in additional barn space, gutter cleaners, feed storage and automatic feeding equipment at the same time.

The loose housing setup required the most changes from a conventional barn because both a new loafing shed and milking parlor were necessary. As a result, this system cost the most per animal for herds up to 46 cows. For larger herds, the average additional investment per cow for loose housing dropped rapidly. Beyond 72 cows it became the lowest of the three types of expansion. When the existing barn wasn't suitable for remodeling and any type of change would require new facilities, loose housing was cheaper than the other two methods for herds of less than 72 cows. Once installed, loose housing had the advantage of costing less for further expansion. (3)

OTHERS' EXPERIENCES CAN HELP DAIRYMEN ABOUT TO EXPAND

Many dairy farmers are at the crossroads. Their dairy herds are too small to provide enough income and they must decide whether to stay in the business or get out.

The man who elects to stay with dairying faces an additional decision. Should he expand the facilities he has or start from scratch, building a new and larger setup? The answer to this question depends a good deal on his existing barn, how far he plans to expand his business and the investment he can afford.

A dairyman in this quandary would do well to take a look at the experiences of others before making up his mind. To provide him with some guidelines, economists in Wisconsin surveyed 50 farmers in 1962. The farmers all had installed pipeline milkers and increased their herd by at

least 10 cows during the preceding 10 years. The study was carried out in cooperation with the state agricultural experiment station.

The first step in expansion for most was to build a new barn or remodel their old one to provide additional space for their cows. The new or remodeled facilities were classed as stanchion barns, stall barns with milking parlors, or loose housing with parlors. All of the survey producers added new milking areas and nearly all enlarged their feeding and feed storage facilities. Sixty per cent installed automatic bunk feeders.

The investment in new facilities ranged from \$7,000 to \$100,000. The average expanded and improved dairy had 64 cows on hand with space for 72. New investment per cow didn't differ greatly among the types of facilities. The

SPACE REQUIREMENTS FOR BEEF CATTLE

Facility	Requirements per head
Shed, including storage for bedding:	
Calves under 600 pounds	20 to 25 sq. ft.
Yearlings and older	25 to 30 sq. ft.
Lot, if paved: ¹	
Calves under 600 pounds	50 sq. ft.
Yearlings and older	70 sq. ft.
Lot, if unpaved:	
Calves under 600 pounds	200 sq. ft.
Yearlings and older	300 sq. ft.
Feeder space, all cattle:	
Self-feeding, grain only	3 to 4 in.
Self-feeding, silo or free access to hay and silage	4 to 6 in.
Limited feeding, all feeds	20 to 24 in.

¹ In some lots a paved area around the feed bunk only may be satisfactory.

GUIDES FOR PLANNING A NEW FEEDLOT: A recent study in Illinois offers some idea of the cost of adding a new feedlot to a farm.

Normally, the investment for setting up and equipping a dry-lot in Illinois ranges from \$75 to \$150 per head, depending on the size of operation and the level of mechanization.

When existing buildings and equipment can be used, a farmer can add a beef feeding enterprise for less than \$75 invested. On the other hand, the producer who wants highly specialized buildings and mechanized feed handling for less than 100 head can easily spend over \$200 per animal.

The estimated costs per unit developed by the specialists in Illinois can help mid-western farmers decide how far to go in building a new feedlot. The data would vary somewhat for cattlemen in other parts of the country. (4)

INVESTMENT IN FEEDLOT FACILITIES

Structure	Cost per unit
	Dollars
Pole shed with metal siding, earth floor	1.00 to 1.25 per sq. ft.
Feed room, 150 to 300 sq. ft.	1.50 to 2.00 per sq. ft.
Paved lot	.30 to .40 per sq. ft.
Working corral ¹	100.00 to 500.00 total
Lot fence	1.50 per ft.
Feed bunks:	
Pre-cast concrete, fence-line type, (net cost) ²	4.50 per ft.
Pre-cast concrete (5 ft. wide for mechanical feeder)	5.25 per ft.
Portable wood bunks (3 ft. wide)	3.00 per ft.
Roof for bunks (10 ft. wide)	3.00 per ft.
Gravel driveway (10 ft. wide)	.50 per ft.
Hay rack	2.00 per ft.
Hoppered bin on concrete base (3-ton capacity) ³	250.00 each

¹ Loading chute and head gate—may include crowding pen, working chute and cattle squeeze. ² Cost of bunks plus cost of installation and minus value of fence replaced. ³ Add \$15 for each additional ton of space up to 10 tons.

Steer Weights Average High or Low Depending on Phase of Cattle Cycle

Steers weigh in at the slaughterhouse quite differently from phase to phase of a cattle cycle. For example, take the period 1949 to 1958, the most recent complete inventory cycle.

The average live weight per head slaughtered under federal inspection tends to increase at the *beginning* of a cycle when numbers are accumulating. From 1949 to 1952 the average tally rose from 994 pounds to 1,019 pounds. Cattle prices are rising during this phase and profits can be increased by feeding to heavier weights if feed costs don't go up.

This is demonstrated in the beef-steer/corn price ratios at the beginning of cycles. The ratio represents the price per hundred-weight of slaughter steers relative to feed costs. It's always relatively high in the beginning phase of inventory buildup.

Weight also tends to increase at the *peak* of a cycle. The peak from 1955 to 1956 saw an increase from 986 pounds to 1,029 pounds. This illustrates the tendency of feeders to withhold fed cattle from the market at the peak of a cycle in expectation of higher prices. Often unaware that liquidation is beginning, feeders hold until their losses become so great they must sell.

During the phase between the beginning of accumulation and its peak, weight follows the beef-steer/corn price ratio. This is also true of the *liquidation* phase which follows the peak of one cycle and precedes the beginning of a new cycle.

Between 1952 and 1954, the inventory numbers of cattle on farms were still accumulating, but the average live weight of steers slaughtered dropped as the ratio dropped. When inventories were being liquidated during 1957 and 1958 the same relationship held, weight rising with the ratio. (5)

FARM MACHINERY COSTS VARY WITH SIZE OF FARM

Item	Size of farm		
	Small	Medium	Large
Dollars			
Original Investment—			
Per farm:			
Tractors	2,320	3,184	5,088
13 implements	2,657	3,670	5,111
Other equipment	945	1,915	4,222
Total	5,922	8,769	14,421
Per acre of cropland:			
Tractors	30.13	22.58	18.71
13 implements	34.51	26.03	18.79
Other equipment	12.27	13.58	15.52
Total	76.91	62.19	53.02
Value December 31, 1960—			
Per farm:			
Tractors	965	1,679	2,888
13 implements	1,246	1,906	2,738
Other equipment	472	1,082	2,550
Total	2,683	4,667	8,176
Per acre of cropland:			
Tractors	12.53	11.91	10.62
13 implements	16.18	13.52	10.07
Other equipment	6.13	7.67	9.38
Total	34.84	33.10	30.07

STUDY REVEALS COST OF TRACTORS AND EQUIPMENT IN OHIO

You have to spend money to make money. And when it comes to the cost necessary to produce crops, a big expense is farm machinery.

Machinery costs vary widely from farm to farm—partly because of the difference in size of operation and partly because of the varying ability of farmers to get the right equipment for their farms. Some idea of the cost of machinery on farms and the size of machines owned has been revealed in a study conducted in northwestern Ohio during 1961.

Corn, soybeans, small grains and hay are the major crops produced in northwestern Ohio. Typically, the work calls for a tractor or tractors and 13 other pieces of machinery. The implements include a plow, tandem disk, spike-tooth harrow, spring-tooth harrow, cultipacker, rotary hoe, corn planter, row cultivator, corn picker, grain drill, combine with power take-off, mower and also a side-

delivery rake.

TRACTORS: All of the farms in the study had at least one tractor and most had two or more. About half of the large farms reported three tractors. The annual use of tractors was relatively low on all sizes of farms—only those used largely for drawbar work on medium-size and large farms were operated more than 500 hours during the year.

Costs of Ownership. The costs per year of owning and operating tractors were highest on the large farms. Tractors on these farms were newer and bigger. Also, the fixed costs of tractor ownership—interest, taxes and depreciation—were more than those for the small farm operations.

Variable costs were the highest on the large farms because the big tractors used fuel faster and were used more hours per year. Total annual costs per tractor were \$513 on the large farms, \$405 on the medium-size farms

and \$304 on the small farms.

On the basis of cost per hour of use (including a charge for the operator's labor), the expense on the large farms was about the same as on the small farms because the big tractors were used more and covered more acres than the smaller machines. The medium-size farms had the lowest tractor cost per hour of use.

Variable costs per hour were the lowest for the big farms despite the fact they had the higher total variable tractor costs. This was due chiefly to lower expenses for repairs—probably because the tractors on the large farms were newer. Some of the big tractors used diesel fuel which makes them cheaper to operate.

IMPLEMENTS: When buying implements, researchers found that farmers generally tried to scale their machines to the size of their farm operations. On the small farms, less than half the plows were larger than two bottoms. On the large farms, 87 per cent of the plows were three bottoms and larger. Over half of the tandem disks on small farms were seven feet wide and under while 86 per cent of those on the large farms averaged eight feet and more. The same relationship was true for the remaining pieces of equipment with the exception of side-delivery rakes. They were about the same width regardless of farm size.

Costs of Implements. The total cost per acre for the 13 tractor-drawn implements averaged about 40 per cent lower on the large farms than on the small farms. Total costs on the middle-size operations were 25 per cent under those of the small farms.

A good part of the difference in total costs of implements was due to the range in time required per acre for planting, cultivating and harvesting. The average time per acre for 13 implements was 30 per cent lower on the large farms and 11 per cent lower on the medium-size farms than on

the small operations.

Operators of the small farms tried to keep their investment in machinery at a minimum by buying used equipment. Farmers in this category purchased only 37 per cent of their implements new while operators of the medium-size farms bought 55 per cent new and farmers with big operations bought 67 per cent of their implements new.

Buying new machinery was reflected in the figures on value of equipment. As of December 31, 1960, machinery values on Ohio farms averaged 45 per cent of the original cost on small operations, 53 per cent on medium-sized farms and 57 per cent on the large farms. The original investment came to \$5,922 for the small farm group, \$8,769 on the medium-size farms and \$14,421 for the large operations. Original investment per acre of cropland was \$76.91, \$62.19 and \$53.02 for the small, medium-size and large farms, respectively.

In order to be included in the study, the farmer had to have an estimated 50 per cent or more of his gross income from crops, work off the farm less than 30 days a year and farm an acreage within one of three ranges—60 to 100 acres (small), 140 to 180 acres (medium) and 280 to 360 acres (large). (6)

WEATHER DETERMINES PROFIT OR LOSS WHEN IRRIGATING CORN

Irrigating corn in southeastern Missouri isn't always profitable. It depends on the weather during any given year and on the amount of fertilizer used.

To illustrate the effects of irrigation on corn yields specialists compared different plots of corn with varying water and fertilizer applications during 1963. The work was conducted at the Missouri state agricultural experiment station's Delta research center. The growing season for corn in this area last year could be described as slightly better than average.

Although the researchers planned to use two levels of irrigation—two inches and three inches of water per acre—only the two-inch application was necessary under the weather conditions encountered. The comparisons were made between three sets of plots—one set with 18,000 plants per acre (irrigated), one set with 18,000 plants (not irrigated) and one set with 14,000 plants (not irrigated).

Five plots were included in each set—one for each level of fertilization. Nitrogen fertilizer was applied at rates of 60, 100, 140, 180 and 220 pounds per acre. In each case, 36 pounds were ap-

plied when the corn was planted and the remaining fertilizer top-dressed as ammonium nitrate when the crop was knee-high.

The specialists found that under 1963 weather conditions, 14,000 plants with no irrigation returned higher yields per acre up to roughly 80 pounds of nitrogen. At higher rates of fertilization, the irrigated plots (18,000 plants) made higher yields. The irrigated corn produced 130 bushels per acre (shelled corn) at the optimum (maximum profit) fertilization rate of 155 pounds compared with 112 bushels for the corn grown without additional water.

From this information, costs and returns were figured for corn with and without irrigation. Using the optimum level of fertilization (155 pounds per acre on a stand of 18,000 plants) and irrigating the crop resulted in a return to land, labor, management and irrigation equipment of \$52.25 per acre. Without irrigation (14,000 plants and 120 pounds of fertilizer), the corn returned \$45.93 per acre. However, deducting the cost of labor reduced these figures to \$43.55 per acre for irrigated corn and \$41.23 for nonirrigated corn.

One more expense needs to be considered—the annual fixed cost of the irrigation system which amounted to \$7 per acre. Subtracting this from the returns for the irrigated crop reduced them to \$36.55. On this basis, it's plain that the return from irrigation during 1963 was enough to cover the variable costs of applying the water but not enough to provide for depreciation and interest on the irrigation equipment.

Weather records indicate that in five years out of 10, the response to irrigation could be expected to be greater than in 1963. During the remaining five years, the same or less response is likely. Irrigating corn would not return a profit these years. (8)

Here's How to figure the tonnage of hay in your mow. (7) With measurements of the stack of hay and the table below, the equation is:

$$\frac{\text{length} \times \text{width} \times \text{av. height}}{\text{cubic feet per ton}} = \text{tons}$$

For example, if timothy hay, two months old, fills a mow 30 by 40 feet to an average depth of 9 feet 9 inches, the solution is:

$$\frac{30 \times 40 \times 9.75}{640} = 18.3 \text{ tons}$$

Kind of hay	Cubic feet per ton	
	In stack 30-90 days	In stack more than 90 days
Alfalfa	485	470
Clover	450-485	435-470
Timothy	640	625
Wild	600	450

VARIED FARM PRICES, ENTERPRISES INDICATE HIGHEST RETURNS

The horns of the farmer's dilemma might well be labeled weather and prices. Alone or together, they can make or break him.

Although weather conditions remain difficult to gauge, the effects of changing prices on farm income can be measured fairly accurately. Economists in the southern U.S. have been attempting to analyze the effects of different prices for products and of different price relationships among products on representative farms throughout a twelve-state area. The states' agricultural experiment stations are cooperating with ERS in these studies.

The latest report to be compiled takes in farms on the sandy soils of southwestern Oklahoma. These farms primarily produce field crops with livestock as supplemental enterprises. A representative farm contains a full section with 500 acres of cropland.

Cotton, grain sorghum and wheat are the major crops on sandyland farms. Alfalfa is often produced too. Livestock enterprises include cow-calf beef herds and buying and selling stocker cattle.

The specialists developed 30 combinations of enterprises, each yielding a maximum return to the farmer at varying levels of prices and with different relationships between products—a higher price for cotton with a lower price for wheat.

Cotton prices ranged from 13.2 cents to 30.8 cents per pound of lint. Wheat, grain sorghum and beef cattle prices were set at base levels and then moved 30 per cent above and below base. Base prices were \$1.25 per bushel for wheat and \$1.70 per hundredweight for grain sorghum.

When grain and beef prices were at base level, cotton would be grown at all five lint prices although acreage varied a good

deal. At 13.2 cents per pound, only 17 acres of cotton would be planted. Grain sorghum on 178 acres was the major cash crop. Alfalfa occupied 89 acres. Almost a third of the cropland would produce feed with a herd of 15 cows and 66 head of stockers. Net returns to the operator—\$5,021.

At 17.6 cents per pound of lint and base prices for other products, cotton took more than half the cropland, replacing all the grain sorghum and wheat. Although the acreage in cropland pasture declined, the rye cover crop on cotton land provided feed for 71 head of stockers plus 12 cows. Net returns—\$5,841.

A lint price of 22 cents resulted in 355 acres of cotton, 10 beef cows and 95 stockers. Returns jumped to \$10,306. When cotton was priced at 26.4 cents the crop took in an additional 39 acres. The beef cows were reduced to six head and 102 stockers were included. Net returns rose to \$14,969. When cotton prices reached a maximum of 30.8 cents, 430 acres or more than 85 per cent of total cropland would be planted to cotton. Fifty acres in small grain pasture and 20 acres reseeded to grass permitted six beef cows and 104 head of stocker cattle. The farmer would make \$19,814.

When grain and cattle prices were moved to 30 per cent below base levels, only moderate increases in cotton production occurred compared with the changes under base prices. Livestock enterprises were smaller and large acreages of cropland were left idle at 22 cents and under for cotton. Net returns varied from \$2,367 to \$18,450.

When prices for grain and livestock were moved 30 per cent above base, cotton became a minor crop at 13.2 and 17.6 cents per pound. At 22 and 26.4 cents, the optimum combination of en-

terprises was similar to grain and cattle at base, cotton at 22 cents. At 30.8 cents, the highest cotton price, the organization was identical to 30.8 cents for cotton, base prices for feed grain, beef. Returns for 30 per cent above base were highest of all—from \$8,562 to \$21,697. (9)

Economists Develop Models for Optimum Farm Organizations in Wiregrass Area

How big a farm and what kinds of crops will pay off for full-time farming in Alabama? These were the questions behind a recent analysis of various price and resource situations for farms in the Wiregrass area.

The results indicated that a farm of 184 acres of open land, including 106 acres of row crops, provides an annual net return of \$9,661 to land, labor and management.

The optimum cropping program for a representative large farm of 184 acres consists of roughly 70 acres of cotton, 35 acres of peanuts, 75 acres of Coastal Bermuda grass hay and enough roughage for five steers.

This program requires a total of \$3,840 of operating capital, \$11,405 of investment capital other than land, 1,203 hours of operator labor and 942 hours of hired seasonal labor. The farmer-operator could handle more land than is included in a farm of this size and still have enough time for maintenance chores.

Smaller farms wouldn't pay off, unless the operator has some other employment as well. According to this study, the representative medium-size farm of 81 acres in open land, 47 of them in row crops, yields a net return to land, labor and management of only \$3,222 a year. Small farms with under 31 acres of open land and 18 acres in row crops show a net return of \$1,086—the only profitable row crops being cotton and peanuts. (10)

Modernization of Cotton Output Means More Chemicals for Insects and Weeds

It's more chemicals for more cotton today and especially in the boll weevil belt, where increased use of fertilizers and expanded irrigation have made the crop even more attractive to the insects.

A recent study covers the cost of chemicals on cotton for 15 areas where boll weevils cause significant damage. The figures are based on practices used in 1961.

Insecticides: The least use of insecticides was in the Brown Loam area of Tennessee in the northern part of the cotton belt. Here, about two out of five acres were treated one or more times. Almost all the acreage was treated in the Delta areas of Arkansas, Louisiana and Mississippi. Average for the study regions was 80 per cent of total cotton acreage.

Cost per treated acre ran from \$4 in the Brown Loam area, where relatively few applications were used, to \$30 in Presidio County, Texas, with an average of 12 applications per treated acre.

Fertilizer. Just about all of the cotton acreage was fertilized, except for three areas in Texas where applications were relatively minor. The Texas areas aside, average use of plant nutrients ran to 144 pounds an acre.

The cost including application was slightly over \$14 per acre.

Herbicides. About a third of the cotton acreage on the sample farms was treated with pre-emergence herbicides, but the range was extreme. None of the acreage in the Texas areas was treated; 77 per cent of the cotton acreage in the Louisiana Delta was treated.

Average cost, including application, was slightly over \$3 per acre.

Post-emergence herbicides were confined almost exclusively to the Delta areas, primarily the large farms. About one out of six acres planted to cotton in the three

Delta areas was treated.

The cost averaged slightly over \$3 per acre.

Defoliants. Chemical defoliants, largely linked with mechanized harvesting, showed up mainly in the Deltas and in the Blackland area of Texas.

About two-fifths of the cotton

acreage on the survey farms was defoliated at an average cost per treated acre of \$2.50 for materials and application.

All chemicals. The cost of all chemicals in the survey averaged \$17.74 per acre for the materials, \$5.30 for the application of the chemicals. (11)

LABOR DROPS, YIELDS GAIN, PRODUCTION IS MORE EFFICIENT

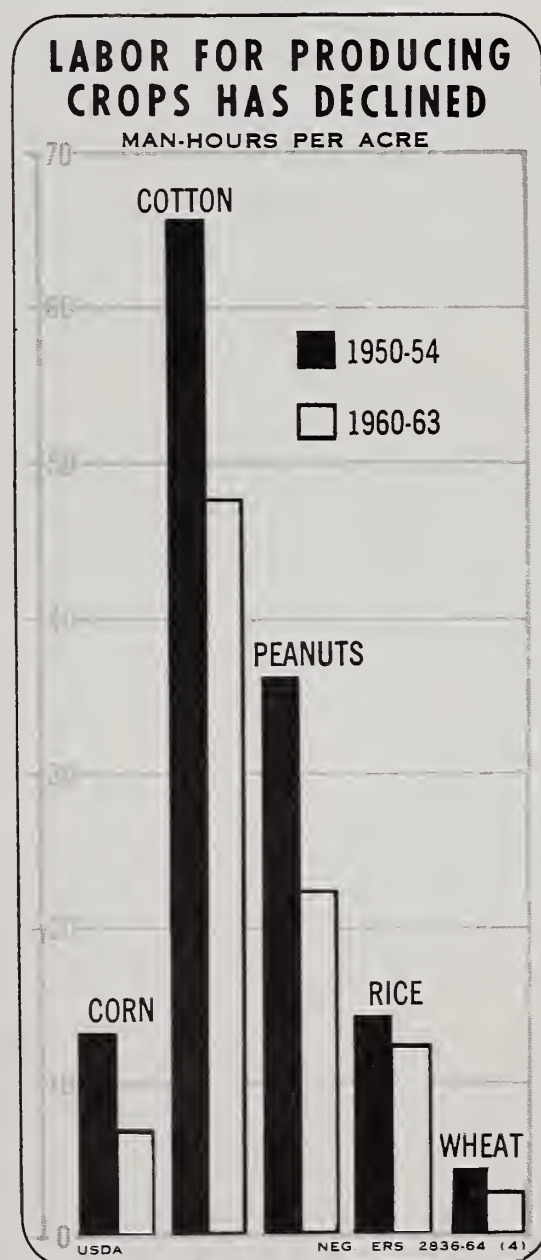
Efficiency is an elusive term to define—and often even harder to measure. When it comes to gauging the efficiency of crop production, economists use several yardsticks, two of which are man-hours of labor and yields per acre.

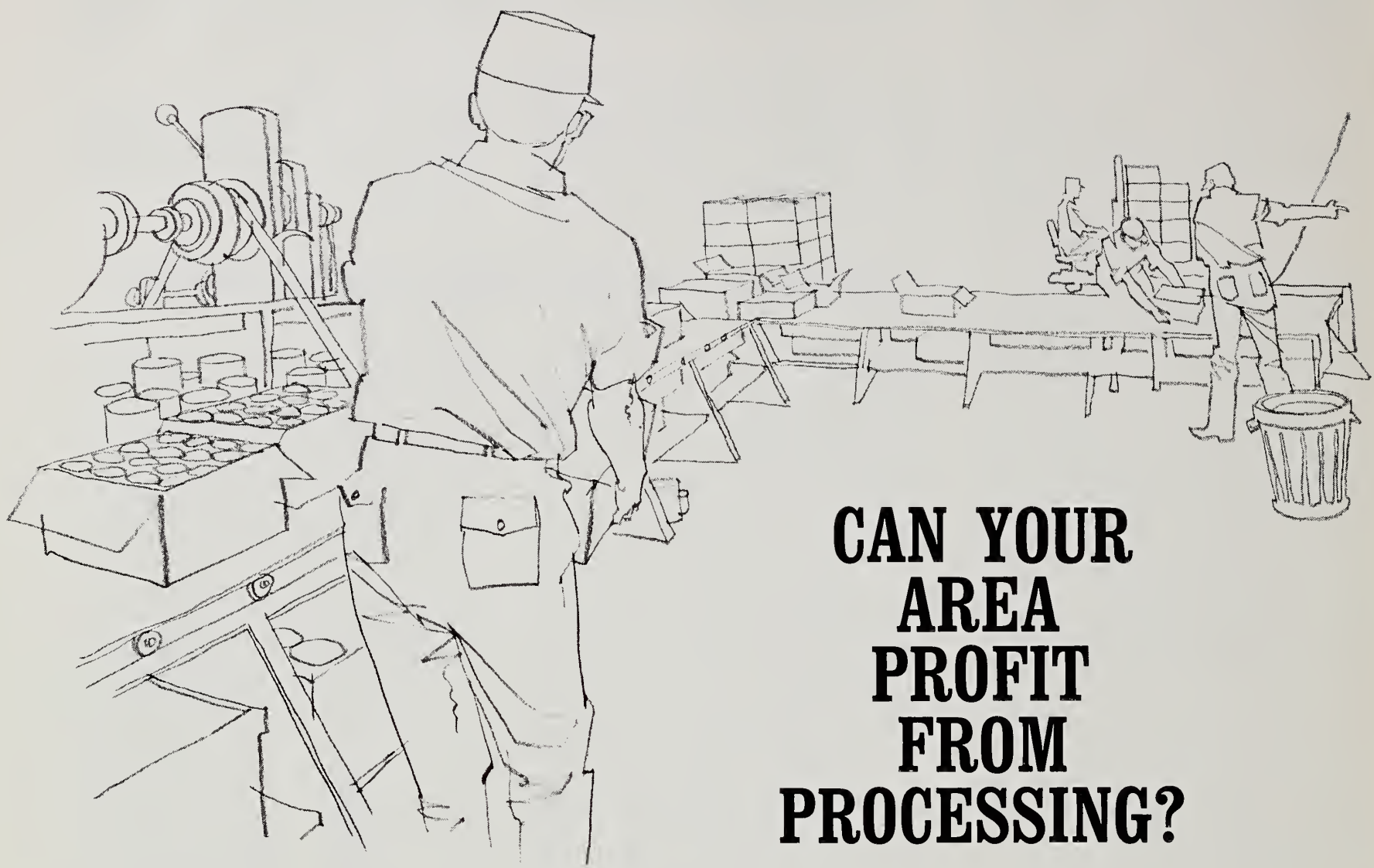
A decline in man-hours of labor, an increase in yields and a resultant gain in productivity have marked the steady increase in the efficiency of crop output during recent years. For example, during 1953 farmers used a total of 5.2 billion man-hours for producing field crops. In 1963, they used about 3 billion man-hours—more than 40 per cent less during a decade of increasing crop output. Average man-hours used per acre declined for all major field crops except tobacco which still requires much hand labor. Man-hours per acre do not include time used for repairing machinery or buildings, record keeping or any other farm maintenance work.

The saving in man-hours is a reflection of the increased use of machines on farms during 1953-63. Despite the decline in the number of farms, the numbers of tractors, corn pickers, pickup balers, field forage harvesters, elevators and trucks grew steadily.

Along with the reduction in labor requirements were improvements in and greater use of fertilizers, pesticides and improved disease-resistant crop varieties which contributed to higher yields per acre. The combined impact of declining man-hours and increasing yields boosted productivity between 1953 and 1963.

In the case of corn produced for grain, average yields increased 57 per cent, from 39 to 62 bushels to the acre. Time requirements dropped 47 per cent, from 13.3 to seven man-hours per acre. The result was a gain of about 200 per cent in labor productivity. (12)





CAN YOUR AREA PROFIT FROM PROCESSING?

Processing as an outlet for fruits and vegetables may offer new investment and employment opportunities in some areas of the Southeast. To explore the possibilities of success for freezing and canning plants, researchers conducted an intensive study in one small area — Jackson County, Florida.

The study, conducted for the Department of Commerce by the Economic Research Service, covered many aspects of the business — from getting the raw vegetables from the farm to shipping them to market.

The study is part of the rural development program. According to the study, the initial cost of a freezing plant would be about \$860,000 with annual operating expenses of about \$1,200,000. To operate at a reasonable profit, re-

searchers say the plant would need to produce 5,000 pounds of processed vegetables per hour for eight and a half months a year.

The basic cost for the canning plant and equipment would be some \$350,000 and annual operating costs would be about \$1,270,000. The plant would produce about 585,000 cases of 24 No. 303 cans per season, or 300 cases of canned vegetables per hour.

These figures are informed estimates, and the researchers stressed the importance of capable management.

Other factors pertaining to the business are less of a problem. The areas within and around the county, for example, produce vegetables chiefly for the fresh market, and generally on a relatively small scale. But the demand created by a freezing or a canning

plant likely would encourage farmers to expand their vegetable production.

The processing plant, however, would need quality as well as quantity production from the farmers.

Researchers say that southern peas, green lima beans, turnips and collards appear to be good vegetable crops for the area. Even though farmers in the area have had little commercial experience with kale, mustard, spinach and speckled butterbeans, these vegetables grow well in Florida soil and climate.

The mild climate in the state would mean a long vegetable season and the plant could operate the necessary eight and a half months a year. Getting skilled or semi-skilled labor for the plant would not be a problem, but get-

ting efficient top management is another story.

The willingness of the local farmers to produce enough for processing is also an important factor. Farmers in the area are used to directing their output to the fresh market. And, as the researchers point out, breaking into an already well supplied market could be a major problem.

They also caution prospective investors to investigate thoroughly the production potential for vegetables in the area before building a plant. (13)

Most People in a Rural Iowa Town Say New Factory Aids Local Economy

Eight years after a small engine factory was built in a country town in Iowa, Iowa State University and ERS researchers asked the farmers of the community how the factory affected their lives—was it for the better or for the worse?

The response depended largely on whether or not the farmer or his wife had worked in the plant. Ninety-eight per cent of the men who had jobs in the factory or whose wives worked in it said their families had received benefits from the new factory. As would be expected, higher incomes and better living were the chief benefits for the factory workers.

Some people, however, felt otherwise. For example, 11 per cent of those who had no job off the farm, 20 per cent of those who worked off the farm but not in the plant, and 4 per cent of those who worked in the plant said the factory had some unfavorable effects on them. For instance, farmers without factory jobs said it was harder to get farm help and that they had to pay higher wages because of the factory. The 4 per cent who worked in the factory complained of health damage and family disruptions caused by their jobs.

When asked, "All things con-

sidered, do you think you and your family have been better off, worse off, or unaffected by the factory since 1951?" about one-third of all farmers said they were better off, 9 per cent said they were worse off and 57 per cent said they were unaffected.

Though only one-third of all farmers said they were better off because of the factory, 83 per cent thought the community had gained.

About 97 per cent of those working in the plant favored additional industry in town, compared with 82 per cent of those without nonfarm jobs and 70 per cent of those who did not work in the plant.

The study also revealed that although farmers and their wives liked working in the factory, they still liked farm life as much as the full-time farmers.

Most people agreed that the factory benefited the community by providing more jobs, particularly for the young people. (14)

Years Add Worry About Health, Money For Men and Women Past Middle Age

Old folks who live in the country are apt to be fairly gloomy about the state of their health and pessimistic about the prospects for the future, when compared with men and women of the same age who live in the city. The point was made in a Kentucky study.

The same project revealed some marked differences between men and women in their late middle age (60 to 64) and those who were 75 or over.

For one thing, in the country or city, the younger men and women as a group were far less happy with their financial situation, despite the fact that their incomes, though modest, were nearly twice as much as incomes for the septuagenarians. Twenty-nine per cent of the younger men and women reported serious financial problems but only 17 per cent

of the older group.

The younger group, with more responsibilities, would be more apt to feel the pinch of restricted incomes.

Health was another area of disagreement. Though the men and women in their seventies reported more ailments, they expressed less need for medical attention than the younger group. And the older group felt their health was about as good if not better than most people of the same age, which was not true of the men and women in their sixties. (15)

River Basin Surveys Must Analyze All Possible Water and Land Uses in Area

An economic base study for river basins ought to answer these four questions:

—What are the characteristics of the resource base?

—What are the best possible uses of water and related land resources to meet short- and long-term needs in the area?

—What are some alternative patterns of use and growth for meeting these needs?

—How do the regional needs relate to the needs of other areas and the nation?

The broad scope of such a base study necessitates cooperative research among economists as well as social and physical scientists.

The U.S. Department of Agriculture is currently investigating the economic base in the Colorado River Basin. The work is being carried out by an interagency field party of irrigation engineers, soil scientists, agronomists, foresters and economists whose work is closely coordinated with other studies being made by ERS economists and sociologists from universities in the basin.

The USDA team has subdivided the whole Colorado River Basin into six sub-basins, permitting intensive study of water uses and potentials at area levels smaller than the entire basin. (16)

List of Questions for Farm Families Helps Point Out Recreation Hazards

A vacation farm is a business, and like any business it involves a degree of risk.

The enterprising family, willing to work hard toward a successful vacation farm, may find the new venture stimulating and profitable, though few families make a lot of money from such a project.

Before going into the business, the farm family should examine every aspect of the project and carefully consider the following questions:

—Does each member of the family really enjoy meeting people?

—Will they enjoy having guests who virtually become part of the family, or will they resent the loss of privacy?

—Will the vacation farm seem like a new experience as well as additional income? Or will it be nothing more than extra work, long hours and the strain of coping with the guests?

—Does the wife enjoy cooking a variety of tasty meals?

If the answers aren't on the

positive side, the family should stop right there. A vacation farm is not their cup of tea. And there is more to the recreation test than attitudes:

—Is the farm in a good location and easy to get to?

—Is there a variety of nearby outdoor recreation facilities?

—Is the water supply ample?

—Can water and sewage systems and kitchen and bathroom facilities pass health inspection?

If a vacation farm still looks like a good idea to the family, they are ready to consider a few more points.

—The family should be willing and able to pay for needed improvements.

—They must have the patience to build the business slowly and carefully over the years.

Only the family that has a full appreciation of the range of problems involved is ready to *try* making a success of the new enterprise.

And these are only a few of the many points farm families should consider before venturing into the farm vacation business. Other important points include the length of the guest season, whether children will be accepted,

and the number of guests to accept at one time.

The farm family also must consider advertising, management and the profit possibilities from some other income-producing enterprises. (17)

Wilderness Beauty of Appalachia Area Creates Problems for Tourist Access








Scenery is one of the major assets of Appalachia. Its rugged beauty attracts tourists and vacationists, but its very wilderness character and poor roads prevent quick and easy access within the area.

Building new highways would be an important way to draw more pleasure seekers.

On the other hand, there's a lack of natural lakes in the area.

Another problem is the flooding of millions of Appalachian acres and lack of dependable stream flow.

Unless checked, flood damage in many of the valleys makes it impractical to develop extensive recreational facilities. And at higher, safe elevations, recreation enterprises are high-cost projects. (18)

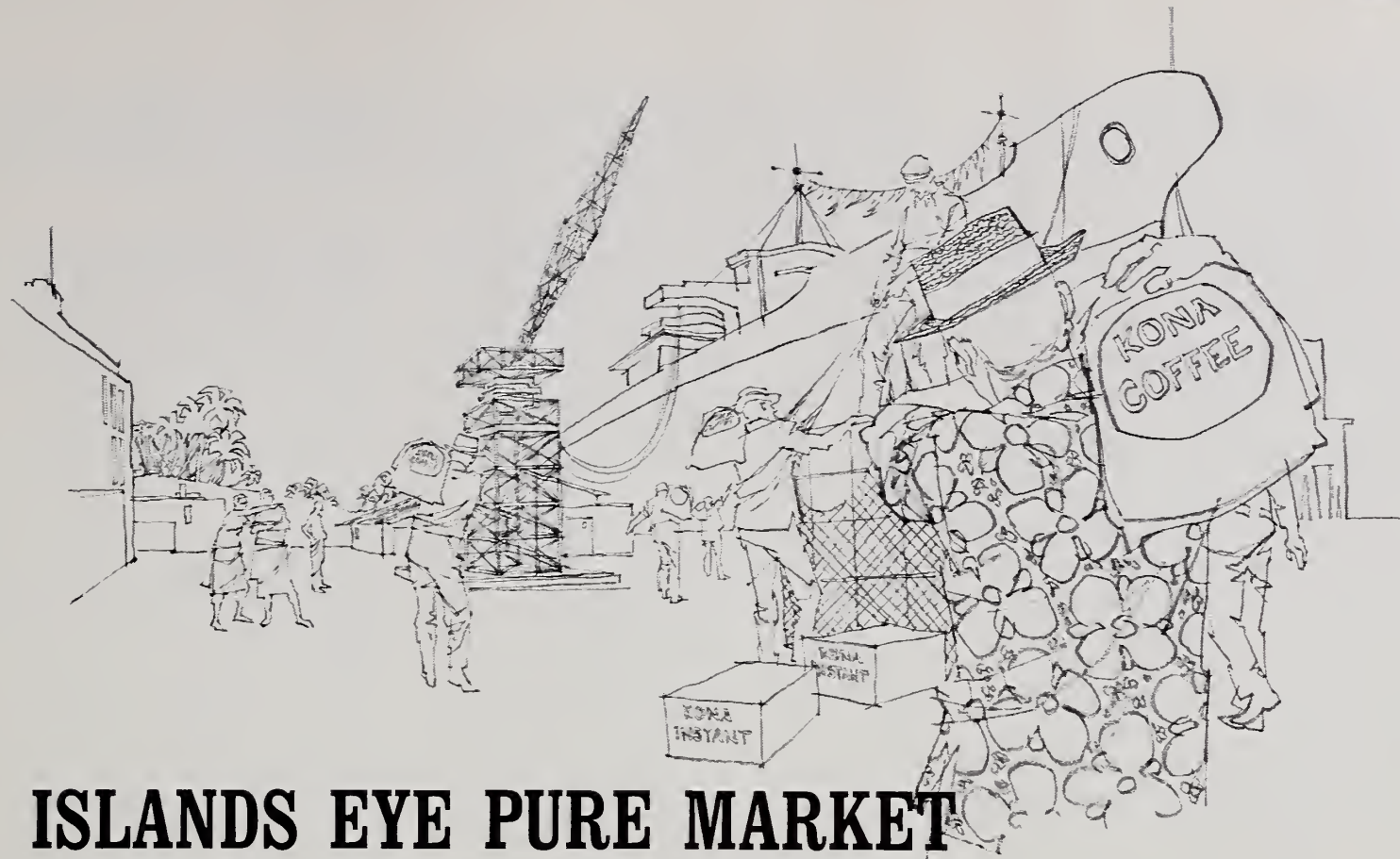
	 Pay Lakes	 Vacation Farms	 Shooting Preserves	 Organized Camps	 Camp Grounds	 Riding Stables	 Picnic Areas
	DOLLARS						
CAPITAL INVESTED	13,776	206	83,150	49,828	11,011	24,025	35,716
INCOME	3,718	757	11,935	4,726	1,408	2,000	823
EXPENSES	2,701	413	9,261	12,598	269	2,585	327
NET CASH INCOME	1,017	344	2,674	—7,872	1,139	—585	496
INTEREST ON INVESTMENT*	620	9	3,742	2,242	495	1,081	1,607
RETURN TO FAMILY	397	335	—1,068	—10,114	644	—1,666	—1,111

FIGURES ARE AVERAGES FOR: 5 PAY LAKES, 7 VACATION FARMS, 4 SHOOTING PRESERVES, 3 ORGANIZED CAMPS, 4 CAMPGROUNDS, 4 RIDING STABLES AND 3 PICNIC AREAS.

*AT 4½%

PROCEED WITH CAUTION. As millions of Americans rediscover the great outdoors, farmers can add to income by running recreation businesses on the side. But plan carefully. Start small. As an Ohio survey shows, shooting preserves and other setups that take a lot of capital tend to lose money. Fifteen of the 30 rural recreation enterprises contacted

in the study were operated by farmers as a secondary business. Most farmers had no previous experience in recreation. Vacation farms had the highest return on invested capital because the land and buildings were already there. It didn't cost much to turn a spare bedroom or two into paying accommodations for vacationers. (19)



ISLANDS EYE PURE MARKET

Like the rolling surf at Waikiki or a luau in Hilo, Kona coffee is a Hawaiian trademark. Famous for its distinctive flavor, Kona has long been combined with other coffee varieties to produce blends enjoyed worldwide.

Now, however, Hawaiian coffee growers are looking into the possibilities of marketing full-strength Kona, both ground and instant, as a way to increase industry returns.

Why? Because Kona has been hard hit by the decline in world coffee prices in recent years. The present upturn in world prices, including Kona, only began several months ago.

Kona is a quality coffee produced in limited quantity in the Kona district on the island of Hawaii; it represents only 2 per cent of world production. Sold green in world markets, it commands a higher price than most other coffees. But because output is small, the Kona industry can't rely on volume sales to cushion the shock when world prices fall.

It's hoped that creating a market for full-strength Kona would remove at least part of the crop

from dependence on the fluctuations in world prices.

Honolulu roasters have put out an all-Kona *ground* coffee for many years. It's been marketed mostly in the islands, with some gift packages sold to tourists or shipped to the mainland. Expanding the mainland market for ground Kona is one possibility for upping sales.

Another is to develop a market—in the islands, on the mainland or both—for an all-Kona *instant* coffee. When soluble coffee first came out, processing techniques were not advanced enough to capture the delicate Kona flavor. Now they are.

To find out if Hawaiian customers would buy instant Kona coffee, researchers from the University of Hawaii, in cooperation with ERS, recently ran a market test in selected grocery stores on Oahu.

In the 19-day test, shoppers indicated they did indeed like instant Kona. Their comments ranged from "I like the taste" to "I want to help a Hawaiian industry."

Then too, there are production

problems to consider. Hawaii doesn't have a plant capable of processing instant coffee. (Test samples were processed on the mainland.) And even if Hawaii built a plant, it's questionable whether the Kona crop is large enough to keep it operating efficiently year-round.

Having a mainland roaster process instant Kona would undoubtedly raise the cost. Any manufacturer would have to charge more to process Kona under a private contract than to produce his own brand of instant coffee.

In developing the island market there's the high transportation cost involved in shipping the green beans 2,000 miles from Hawaii to the mainland, then shipping the processed Kona back.

Some of these return-trip shipping costs would be eliminated if a mainland market could also be developed. The price differential between Kona and instant coffee blends probably wouldn't limit mainland sales if Kona were sold in stores featuring imported cheeses, smoked tongue and other gourmet items. (20)

Food Firms Had Net Income in 1963 As Good or Better Than Year Earlier

Net income for 166 leading food manufacturing corporations totaled 8 per cent more in 1963 than in 1962. Much of the rise was from increased sales.

As a percentage of sales, net income was the same as 1962 or higher for leading firms in each of the food manufacturing industries. The category includes baking, dairy products, meatpacking, sugar and other foods. However, with the exception of the 17 sugar processors on the list, the increase was no more than one-tenth of one percentage point. Net income for the sugar firms averaged 4.3 per cent of sales in 1963, up from 3.6 per cent in 1962.

These figures were originally compiled by the First National

City Bank of New York.

As a percentage of net assets, net income was higher in 1963 than in 1962 for four of the five food manufacturing industries. The figure for the "other foods" group shaded down from 12.5 to 12.3 per cent. For the rest of the industry groups, the net income-to-net assets ratio varied in 1963 from 5.9 per cent for meatpackers to 11 per cent for baking corporations.

Total profits of 59 leading retail food chains were 6 per cent more in 1963. But the ratios of net income to sales and to net assets were the same as 1962.

Other processors of farm products also had higher total net incomes in 1963. And net income as a percentage of sales was as high or higher in 1963 than it was in 1962 for the other manufacturing companies. (21)

ATLANTA'S PRODUCE HANDLERS SPLIT 50-50 ON OUTLOOK

Many Atlanta produce handlers would find it difficult to answer a son's questions about his chance of success in the business today.

Best bet for information is a new report from the South Carolina Agricultural Experiment Station on the Atlanta wholesale fruit and vegetable market. Here are some changes in a market that supplies Atlanta, northern Georgia, eastern Tennessee, Alabama and South Carolina.

Over the last 20 to 30 years, the amount of fruit and vegetables received in Atlanta has grown by some 20 per cent. The number of firms has more than doubled to 71.

Most firms bought from the same suppliers as a decade ago. But some were buying more produce directly from shipping points.

More produce was being hauled by truck, less by rail since the end of World War II. More produce was being sold to retail chains, less to wholesale organi-

zations. And more produce was being delivered directly to buyers, mostly by firms owning their own trucks.

Credit from produce firm to buyer was usually extended for seven days. A 20.7 per cent margin for costs and profit is what most firms aimed for.

Despite the complexity and competition in the market today, a young man would find it fairly easy to enter the business. Not much money is needed. Buildings can be rented and what little equipment is needed can be rented, leased or bought on time.

But entering the wholesale produce business is just the first step. What do market changes portend for a young man's future?

Atlanta produce handlers split almost 50-50 over the question. Over half felt the outlook was good; 41 per cent felt it was poor. The larger wholesalers tended to be more optimistic than smaller ones. (22)

Use of Fats in Formula Feeds Is Big New Market for Rendering Industry

The feed industry is the largest new domestic market for inedible fats and oils; it is second only to soapmaking as a sales outlet for renderers' inedible tallow and grease.

Reported usage of fats in animal feeds is about 500 million pounds, 90 per cent of which is inedible tallow and grease.

The primary feed market at home and abroad is for fats used in the production of high-efficiency poultry rations.

Fat is required to provide the energy needed in these high-protein, high-energy formula feeds.

However, renderers must produce fat that is clean, stable and free from rancidity and objectionable odors to meet the needs of feed manufacturers.

Recent research in feeding high-efficiency rations to hogs showed beneficial results. Widespread application of this finding could create a substantial new market for animal fats.

Fats can also be used to replace other energy-source ingredients in formula feeds within certain limits. If a more favorable cost-energy ratio existed for animal fats, compared with other energy sources, the domestic feed industry could absorb greater quantities of tallow and grease.

Renderers now separate animal fat and animal protein (meat scrap), which they sell to feed manufacturers for adding to many feeds.

In the future, renderers may find it advantageous to produce a single high-fat, high-protein feed ingredient from their raw material.

The ingredient should provide the desired amount of animal fat and animal protein needed in a final feed. Rendering costs would probably be lowered by reduced cooking and pressing costs for such a product. (23)

Big City Price Wars, Drive-In Dairies Among Studies to Better Milk Marketing

A roundup of current research on the marketing of a single commodity—milk—shows the scope of ERS work to help improve the nation's food distribution system.

Just completed or in work are nine major studies that deal with various phases of the marketing system:

Better Butterfat Testing. Farmers are paid mostly for the butterfat content in milk which is determined by tests made in the purchaser's plant several times a month.

The problem in this method is that butterfat content tends to vary considerably in milk delivered from one day to the next.

ERS has completed a nine market study of milk processors' test results over a one-year period. From this information, economists have been able to devise a statistical method that will help plants come closer to gauging the butterfat content—and thus the payment to the producer—for each day's milk delivery.

Paying for Protein in Milk. Nonfat solids are gaining recognition as important constituents of milk which have been neglected in setting prices.

Recognizing that nationwide testing and pricing of the protein may be over the horizon, ERS is studying the effect on farm income and changes in the operations of milk processors and distributors that might result.

Market Outlook for 2 Per Cent Milk. The whole milk most consumers know has about 3.7 per cent butterfat. Skim milk, of course, has none. Now the dairy industry is interested in marketing a 2 per cent milk which gives consumers less butterfat than regular milk but more flavor than skim milk.

ERS has surveyed dealers all over the country. They report that 2 per cent milk shows con-

siderable sales potential.

Capacity and Flexibility of Milk Manufacturing Plants. This is a two-part study. The first part is designed to find out how much dairy plants have changed since the peak production, war year of 1944. Is the production per plant larger or smaller? Are plants more specialized, producing only butter for example, or have they diversified into cheese, milk powder and other products?

The second part of the study will focus on how much milk manufacturing firms actually produce compared with their total capacity to produce. It will also consider whether firms would realize higher profits by diversifying their product lines.

Price Wars in City Milk Markets. Over-intensive competition among city dairies can adversely affect farmers, dealers, grocers and ultimately, consumers. However, ERS study of the underlying causes shows that price wars in some ways serve the public interest. They may, for example, spur competing firms to adopt new packaging, new types of milk products and other technological innovations.

Structure of Fluid Milk Markets. Does the consumer get better milk and better service at a better price when the community has 10 dairies, as one U. S. metropolitan area does, or 150, as another one actually has?

ERS is analyzing fluid milk markets in all parts of the country to get the answer to this and similar questions.

Drive-In Dairies in California. Under California law, plant outlets can sell milk at retail somewhat cheaper than groceries. Thus, drive-in outlets, usually located in city suburbs, have had a minor boom. If the drive-ins spread to other states and captured a major part of the market, this could have serious repercussions in the rest of the fluid milk industry. To judge its impact, ERS is studying this relatively

uncommon marketing method.

How Advertising Affects Fluid Milk Sales. A brand new study that will be conducted in six cities over a two-year period, this research is being done to find out whether the dairy industry can sell more milk by spending more for advertising and other types of sales promotion.

Cost of Marketing Milk. How much does it cost to process and distribute milk? Does it cost more in one city than in another? These costs, of course, help to determine the price consumers pay for a quart of milk.

ERS keeps tabs on changes in costs, buying and selling prices and sales patterns of a national sample of milk distribution. This series has been running for over 12 years. (24)

Food and Related Industries Producing More This Year With Fewer Workers

Industrial production of food, beverages and tobacco is running about 3 per cent ahead of a year ago, according to first quarter figures.

Manufacturers' shipments of foods and kindred products in January-February were 9 per cent larger than a year earlier on a seasonally adjusted basis; inventories rose 1 per cent.

Despite the industry's higher output of food and related products, there were slightly fewer workers on somewhat shorter hours doing the job in the first quarter, compared with a year earlier.

Food consumption is expected to rise again this year though not quite so much as it did in 1963. Per capita consumption may be around one-half of 1 per cent higher. It was up nearly 1 per cent in 1963.

But though the increases appear small, they are, in fact, sizeable compared with the annual average increase of only 0.3 per cent since the 1947-49 period. (25)

THE \$ ROUNDUP: TEAMWORK AND TRADE

*Taking over half of all U.S. exports,
our OECD partners are now taking financial steps as
well to help ease our payments deficit*

The U. S. balance of payments problem is less serious today than it has been—due in part to cooperation among OECD countries.

The U. S. balance of payments deficit with all areas declined from \$3.8 billion in 1960 to \$2.1 billion in 1962. While the 1963 deficit was \$2.6 billion, the U.S. balance on recorded transactions with OECD countries, excluding Japan, was in surplus for the third consecutive year.

Less well known than two of its member groups, OECD is the Organization for Economic Cooperation and Development.

Basically, the OECD is a forum in which member countries can jointly work on problems of economic growth and financial stability as well as coordination of their programs of aid to developing nations.

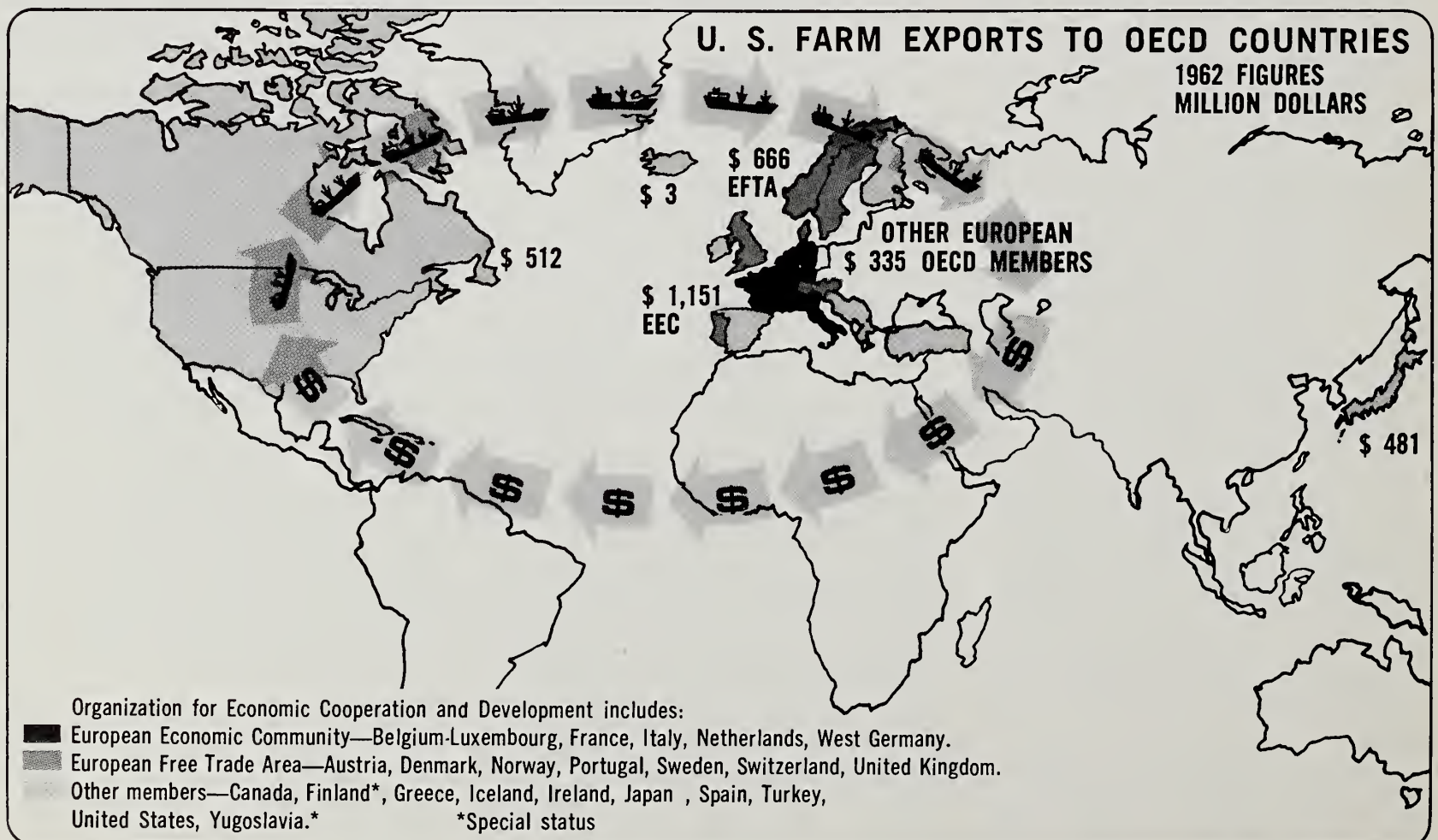
Six of OECD's 21 full members make up the European Economic Community or Common Market. Seven comprise the European Free Trade Area. Canada, Japan and the U.S. are among eight other full members, while Finland and Yugoslavia have a looser "special status" affiliation.

OECD, established in 1961, succeeded the Organization for European Economic Cooperation. OEEC was set up in 1948 to administer Marshall Plan aid and coordinate European recovery.

Most important to the U.S. balance of payments position is the fact that OECD nations together take over half of all U.S. exports.

We have a particularly favorable trade balance in agricultural products. Between 1960 and 1962, net earnings on farm trade with the OECD area averaged over \$2 billion a year. This \$2 billion represented two-thirds of our net earnings from total trade with the OECD. Our balance of payments problem stems not from a deficit of trade but basically from our heavy military and aid commitments around the world as well as the outflow of capital abroad.

The U.S. has taken several



steps on its own to ease the payments imbalance. Among others, these include:

—Reducing large U. S. military purchases abroad by procuring more goods and services in this country.

—Offsetting other large U. S. military expenditures abroad by selling more military equipment to foreign countries.

—Making utmost use of U. S. goods and services in our foreign economic aid programs.

Other vital steps have been taken cooperatively by the U. S. and OECD members, notably the industrial members. Among others, these include:

—Repayment of U. S. postwar loans by OECD countries, often in advance. Repayments ran \$915 million in 1961, \$898 million in 1962. OECD repayments accounted for over 70 per cent of all repayments to the U. S. in both years.

—European efforts to improve their capital markets rather than relying on U. S. capital.

—Agreement among the 10 leading industrial members to lend their currencies to the International Monetary Fund. This gives IMF sufficient reserves in case any of these countries run into balance of payments pressures that might impair the international payments system.

—Purchase of special U. S. securities by European central banks and governments. These nonmarketable securities are denominated and repayable in dollars and in the currency of the purchasing country.

By selling these securities, the U. S. absorbs the excess dollar reserves of foreign banks and governments. Before, these countries for the most part held their dollar reserves in relatively short-term marketable U. S. dollar securities — or converted excess dollars into gold. This latter course resulted in a drain on the gold stock held by the United States. (26)

First Eight Months Show Fiscal '64 May Be Record \$6 Billion Export Year

If the trend of the first eight months holds up, U. S. farm exports in fiscal 1964 may reach \$6 billion.

This means that the U. S. will ship overseas \$900 million more in farm products this year than in any previous year in our history. Most of the increase is in sales for dollars.

Actual exports for July through January totaled \$3,509 million. February shipments are estimated at \$525 million.

Biggest export gainers over fiscal 1963 are wheat, cotton, feed grains, soybeans, animal fats, dairy products and rice.

Only soybean oil, flaxseed, rye and hides and skins have failed so far to equal shipments in fiscal 1963.

Several factors are combining to make this a historic year for U. S. agricultural exports:

—A relatively poor 1963 wheat harvest in Western Europe and the Soviet bloc.

—A slight decline in cotton output in other producing countries, coupled with a change in the CCC cotton program that permits sales of government-held stocks at competitive world prices.

—Continued advances in economic activity in Japan and the industrial nations of Western Europe. (27)

Hemisphere Was \$1 Billion-Plus Market For U.S. Farm Commodities Last Year

Twelve of the 20 Latin American republics took more U. S. farm products in 1963 than in 1962. But Canada as usual was our best hemisphere customer and, after Japan, our best world customer.

U. S. farm exports to Canada were up by \$85 million from 1962 for a 1963 total of \$597 million. All were dollar sales. The total,

as usual, included intransit bulk commodities placed in bonded storage to top off ships moving through the St. Lawrence Seaway.

Exports to Latin America came to \$500 million, up \$62 million from 1962, but below the 1956-59 average of \$537 million. Excluding Cuba, formerly an important market, exports to Latin America were at an alltime high.

Brazil was our second biggest hemisphere customer. But \$81 million of the \$102 million total was wheat—and four-fifths of this was shipped under the government's P.L. 480 program.

Sales to Mexico, a good dollar market, were 32 per cent above the year before.

The Dominican Republic imported 115 per cent more U. S. farm commodities than in 1962. Shipments to Cuba totaled over \$15 million compared with \$331,000 in 1962, mainly ransom payments for prisoners. (28)

Too Many People, Too Few Farm Jobs; Indies See an Answer in Le Tourisme

Despite restrictions on some food imports, U. S. trade with the French West Indies should continue its modest increase.

The French West Indies imported some \$5 million worth of U. S. goods in 1962, mainly machinery, equipment and petroleum products. Exports to the U. S. amounted to some \$6 million, mostly sugar and industrial molasses. Imports were up from the previous year, exports down.

The Indies import almost all of their manufactured goods and petroleum products and much of their food. Dried peas and beans are the largest single food group imported from the United States.

Agriculture and related industries are the major sources of employment for the 600,000 people who live on the islands. But these industries are unable to keep pace with the rapidly expanding population, expected to

double within a generation.

Despite this and other problems, the economy of the islands is expanding.

Loans are being made to increase the herds and grazing lands of the small farmers and sharecroppers who raise most of the livestock. The French government is expected to increase public services, road construction, water distribution and port construction, all of which will help agricultural production and marketing.

France's latest plan for the is-

lands encourages diversification of agriculture, light industry and tourism.

In 1960 tourists spent some \$400,000 on each of the principal islands, Martinique and Guadeloupe. A 100-room tourist-class hotel opened last year in Guadeloupe and another is being built. Two smaller hotels are going up in Martinique.

Minimum wages, decreed in France, are high and the demand for consumer goods should increase proportionately with income and population. (29)

LAWS ATOP LAWS SLOW INDIA'S GIGANTIC LAND REFORM JOB

April 1, 1957, was Tiller's Day in the new state of Bombay. On that day tenant farmers were declared by law to be owners of the land they tilled—provided they bought it. Otherwise, they would ultimately forfeit it and leave.

The Tiller's Day amendment was intended to make owners out of some 2.5 million tenant farmers.

The amendment was another in a long series of land reform measures in Bombay state going back to India's independence in 1948. Although India's central government is wholly committed to land reform, it's up to the states to carry out their own reform program.

How has the Tiller's Day amendment worked? Slow progress, according to a new report published by ERS.

However, the report points out that there are many reasons why this and related land reform efforts are moving much more slowly than officials had hoped.

To begin with, the amendment was passed by the Bombay legislature in 1955. But before it could be put into effect Bombay lost four districts to the new state of Mysore. Mysore rejected the amendment in favor of its own land reform program.

Then Bombay itself, in 1960,

was transformed into Gujarat and Maharashtra. Along with Bombay's various reform laws, these two new states inherited still other laws when they annexed Saurashtra and districts from Madhya Pradesh and Hyderabad.

This realignment of state boundaries, coupled with layers of reform measures, increased the complexity and uncertainty of tenure arrangements among millions of owners and tenants.

Tenants who wanted to buy the land they tilled often couldn't find out how to go about it. Originally, land transfers under the Tiller's Day amendment were to be completed by March 1961. By the end of 1962 half the cases, some 1.5 million, were still undecided.

Many landowners were able to circumvent the law, often with the help of tenants themselves, who mistrusted the complicated reforms. In some cases landowners simply turned their tenants into "agricultural laborers" so that they wouldn't be entitled to buy land under the Tiller's Day amendment. As a practical matter, the tenants remained tenants, living and working on the same land, paying rent as always under one guise or another.

The Bombay tenancy reforms

have done little to help the landless laborers who in 1951 made up one-third of the working agricultural population. Some surplus lands are supposed to go to members of this labor force. But it will be five to 10 years before there's much surplus land. Even then very few laborers will have the money to buy. It's estimated that less than one-tenth of these workers will ultimately own average-size farms.

For every two tenants who have purchased land, one tenant has neglected or refused to buy. Others who agreed to buy haven't been able to keep up payments. At the present rate it's possible that by the time all cases are settled in western Maharashtra alone, 500,000 tenants will have failed to meet their obligations and surrendered 1.5 million acres to landlords or to the government if landlords already hold their full quota of land.

The theory behind land reform is that farmers will have greater incentive to invest capital and labor if they own the land. These investments in turn increase farm output.

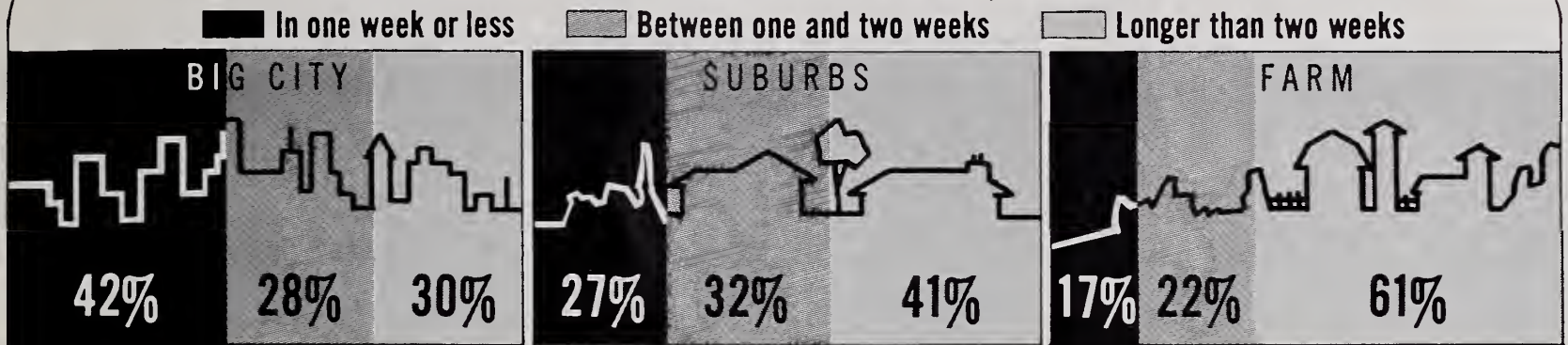
The study points out that Bombay's "go-slow" reform program, while cheaper for the government to administer, has tended to retard rather than increase capital investment in agriculture.

Landlords hesitate to spend money on acreage they will probably have to sell to tenants. And former tenants, even though they're now owners, either don't have the capital to invest or won't invest it because they're not convinced the land is theirs for good.

The report suggests that if a "go-fast" program on the present broad scale is too costly, then the place to cut back is on size, not speed. Once land reform can be made to work equitably and efficiently in a few areas, the success story will spread.

The thing India's land reform programs need most is the people's confidence. (30)

PER CENT OF HOUSEHOLDS OUT OF FOOD, BY LOCATION



Until help arrived in earthquake, flood or other emergency . . .

HOW LONG COULD YOU FEED YOUR FAMILY?

Over 11,000 households have been surveyed by USDA's Statistical Reporting Service to find out how much food the nation has stored in the family pantry and freezer.

The study, which was done for the Office of Civil Defense, will help pinpoint areas in which emergency food supplies would be most needed. Similar surveys have already been made of food stocks in wholesale warehouses and in retail groceries.

In the household study homemakers were asked to estimate how long their food supplies would last, not if they served normal meals, but if they fed the family only enough to get by on.

One-third said they could stretch food on hand about a week or less. Another third said between one and two weeks. The rest felt they could hold out longer than two weeks.

Here are some of the factors

that influence how much food you keep in the house.

LOCATION IN AREA. You're better off living in the suburbs than downtown, but better still on a farm (see charts above).

In two weeks or less 70 per cent of downtown big city households would run through their food supplies. This would be true for 59 per cent of homes in suburbs, only 39 per cent on farms.

LOCATION IN NATION. Homes in the Northeast and Southeast would run out of food fastest. Those in the western northcentral states and the Pacific Northwest could hold out the longest. The rest of the nation falls somewhere in between.

FAMILY INCOME. The lower the income the less the family invests in foods. Where income was under \$4,000, 38 per cent of homemakers contacted said food on hand would last only a week or less. In the \$4,000-6,000 range

the figure drops to 29 per cent. In the \$10,000-and-up category, it's down to 22 per cent.

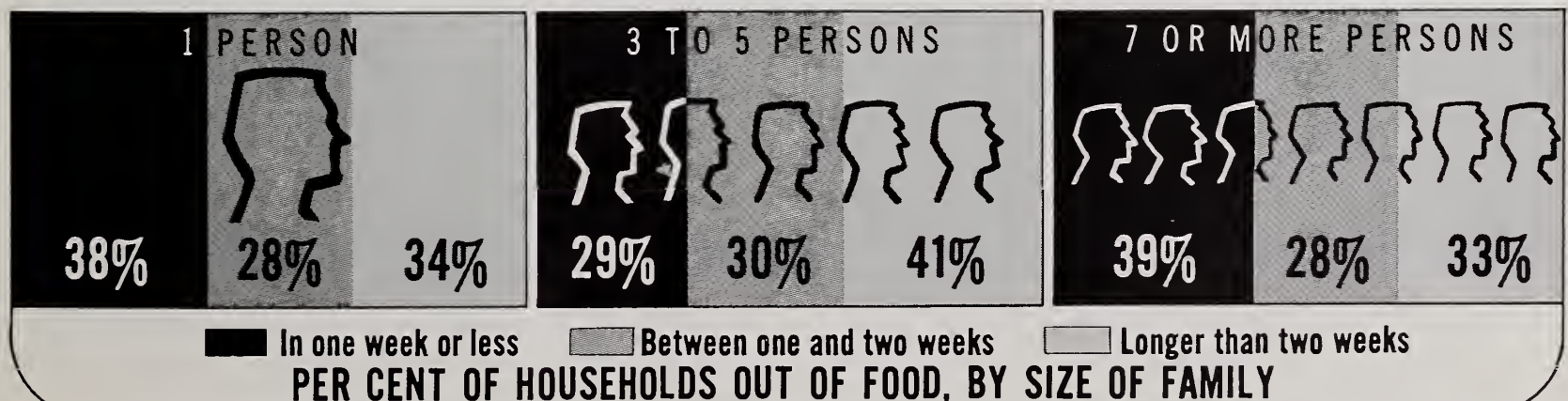
EDUCATION. The more education, the more food homemakers stock. People with less than a high school education would tend to use up supplies faster than high school graduates.

SIZE OF FAMILY. Families with three, four and five members could make their foodstocks last longer than very small and very large households (see charts below).

CHILDREN. It makes no difference whether there are children under 14 years of age in the family. With or without young children households would use food at about the same rate.

AGE. Older homemakers expected to run short a little sooner than their younger counterparts.

STORAGE SPACE. Apartment dwellers couldn't stretch meals as far as home owners. (31)



The following publications are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from the Division of Information, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained from the issuing agencies of the respective states.

OUR 100,000 BIGGEST FARMS — THEIR RELATIVE POSITION IN AMERICAN AGRICULTURE. Radoje Nikolitch, Farm Production Economics Division. AER-49.

An increasing proportion of total sales of farm products is coming from farms with \$40,000 or more of marketings. Family farms are contributing an increasing share of total farm output; 70 per cent of all farm marketings came from them in 1959.

TAXATION OF RECREATIONAL ENTERPRISES ON PRIVATE RURAL LANDS. Bennett S. White, Cooperative State Experiment Station Service, Glenwood Smith, Rural Electrification Administration, and C. B. Markeson, Farmer Cooperative Service. ERS-144.

The proprietor of an outdoor recreational enterprise will file his federal income tax returns as a small businessman on Schedule C. If he continues to run his farm along with the recreational enterprise he may find it advantageous to keep his farm income separate from his new business income and expenses.

COMPARISON OF ALTERNATIVE BEEF CATTLE SYSTEMS FOR WESTERN SOUTH DAKOTA RANCHES. Grant L. Cornelius, South Dakota Agricultural Experiment Station, in

recent publications



cooperation with Farm Production Economics Division. S. D. Agr. Econ. Pam. 117.

This report, based on a 1959 study in the range area of western South Dakota, presents cost and return estimates for two sizes of cattle ranches and for four common ranching systems.

CONSUMPTION OF FEED BY LIVESTOCK, 1940-1959. Earl F. Hodges, Farm Production Economics Division. PRR-79.

This report revises and continues the data previously published in 1958. Among other items, the report presents data on the relative value of feeds for different kinds of livestock with various prices for corn; methods of estimating future feed needs; and the quantities of feed consumed by livestock annually.

WET CORN—SHELLED OR GROUND EAR. Velmar W. Davis, Illinois Agricultural Experiment Station in cooperation with Farm Production Economics Division. Ill. Agr. Expt. Sta. AE-3997.

Differences in quality of stored wet corn are due primarily to management practices rather than to the type of structure in which the corn is stored. (See February 1964 Farm INDEX.)

REGIONAL CHANGES IN GRAIN PRODUCTION—AN APPLICATION OF SPATIAL LINEAR PROGRAMMING. Alvin C. Egbert, Earl O. Heady and Ray F. Brokken, Iowa Agricultural and Home Economics Experiment Station, in cooperation with the Farm Production Economics Division. Iowa Agr. Expt. Sta. Res. Bul. 521.

This study, by means of modern computer technology, attempts to answer some questions in grain production: Will the grain surplus problem persist; how might optimum fertilizer use increase total production potential; and how might fertilizer use, together with improved practices, change the structure of regional comparative advantage.

EXTENT AND COST OF USING CHEMICALS IN COTTON PRODUCTION—SELECTED AREAS, 1961. E. L. Langsford, Farm Production Economics Division. ERS-155.

Insecticides, fertilizers, herbicides and defoliants are becoming increasingly important in producing U.S. cotton. The estimated total costs of all specified chemicals for each area of cotton averaged \$17.74 for the materials plus \$5.30 for their application. With an average yield per acre, costs for these chemicals equalled 5.6 cents per pound of lint.

INCREASING THE EFFICIENCY OF POWER USED FOR MATERIALS HANDLING IN SOUTHWESTERN COTTON GINS. Charles A. Wilmot, Economic Research Service, and David M. Alberson, Agricultural Research Service. ERS-154.

This report indicates that substantial savings in operating costs could be realized in most cotton ginning operations by peaking efficiency of individual air systems used for materials handling and by rearranging gin machinery to eliminate unnecessary fans, motors and piping.

CHANGES IN QUALITY AND VALUE OF COTTON BALES AND SAMPLES DURING STORAGE. C. Curtis Cable, Jr. and Zolon M. Looney, Marketing Economics Division, and Harvin R. Smith, Agricultural Marketing Service. MRR-645.

The results of this study show that deterioration in quality of cotton grown in relatively dry areas can be reduced by storing it in the area of growth rather than in more humid areas. The cost of resampling bales can be substantially reduced if extra original samples are drawn when the cotton is first stored.

LONG-DISTANCE SHIPMENT OF MARKET MILK. William T. Butz, Marketing Economics Division. MRR-648.

Between the mid-fifties and the early sixties, long distance shipments of market milk declined. (See April 1964 Farm INDEX.)

PRICES AND SPREADS FOR FRESH FRUITS AND VEGETABLES SOLD IN SELECTED MARKETS, 1956-62. Victor G. Edman, Marketing Economics Division. Statis. Bul. 340.

This report makes available price and spread data on 18 fresh fruits and vegetables in from two to seven markets each.

CONTRACT PRODUCTION OF TRUCK CROPS—12 SELECTED AREAS, UNITED STATES. Ronald L. Mighell, Lawrence A. Jones and Earle E. Gavett, Farm Production Economics Division. ERS-152.

Contracting is prevalent in producing vegetables for processing while vertical integration is more common in production for fresh market.

FARM MACHINERY COSTS IN THE WESTERN STATES—A REGIONAL PUBLICATION FOR THE WESTERN AGRICULTURAL EXPERIMENT STATIONS. William E. Martin, Arizona Agricultural Experiment Station. Ariz. Agri. Expt. Sta. Tech. Bul. 154.

This report presents equations for estimating costs for farm power and tillage instruments—the particular value depending on the size and type of equipment and the variety of conditions under which bought, sold and used.

ENTERPRISE COSTS AND RETURNS ON RICE FARMS IN NORTHEAST ARKANSAS RICE AREA. Warren R. Grant and Troy Mullins, Farm Production Economics Division, in cooperation with University of Arkansas Agricultural Experiment Station. Ark. Expt. Sta. Rpt. Ser. 125.

A rice producer who chooses to combine his farm enterprises can use this report to determine input requirements and yields of other crops adapted to farms on loessial terrace soils in Arkansas.

ECONOMIC APPRAISAL OF CONSERVATION FARMING IN THE GRENADA-LORING-MEMPHIS SOIL AREA OF WEST TENNESSEE. S. W. Atkins, Farm Production Economics Division, in cooperation with Tennessee Agricultural Experiment Station. Tenn. Agri. Expt. Sta. Bul. 369.

This report appraises the short-run and long-term effects of different levels of soil conservation on crop yields, farm costs and net farm income on upland farms in the Grenada-Loring-Memphis Soil Area of West Tennessee.

INVENTORY OF FOOD PRODUCTS AND BEVERAGES IN WAREHOUSES AT WHOLESALE, 1962. Michael G. Van Dress, Marketing Economics Division. Supplement to MRR-632.

The data for this report were collected in conjunction with a 1962 civil defense study (MRR-632) to determine food supplies in U. S. warehouses. At that time inventories of fruits and vegetables were greater than those for the other seven food groups.

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Base Studies (S); 17. J. M. Davis and H. A. Johnson, Operating Vacation Farms (S); 18. E. L. Baum and E. J. Moore, Some Economic Opportunities and Limitations of Outdoor Recreation Enterprises (M); 19. G. P. Owens, Income Potential from Outdoor Recreation Enterprises in Rural Areas of Ohio, Ohio Agr. Expt. Sta. Res. Bul. (M); 20. H. R. Linstrom, J. T. Keller, and C. R. Creek, A Pilot Market Test of Instant Kona Coffee, AER (M); 21. Marketing and Transportation Situation, MTS-153 (P); 22. J. F. Pittman and W. F. Chapman, Jr., The Organization of the Wholesale Fruit and Vegetable Markets in the South—Atlanta, Georgia, S. C. Agr. Expt. Sta., AE-249 (M); 23. H. O. Doty, Jr., Opportunities and Challenges for the Rendering Industry (S); 24. R. E. Olson, Fluid Milk Marketing Research in Government (S); 25. National Food Situation, NFS-108 (P); 26. McG. H. Spears, "U.S. Agricultural Trade and Balance of Payments with OECD Countries," For. Agr. Trade, Apr. '64 (P); 27. Foreign Agricultural Trade, May '64 (P); 28. G. A. Bennett (SM); 29. A. G. Sanderson, The French West Indies—Agricultural Production and Trade, ERS-F 80 (P); 30. G. Wunderlich, Land Reform in India: Analysis of Economic Aspects of Tenancy Legislation, 1948-63 (M); 31. M. Weidenhamer, Homemakers' Estimates of How Long Food on Hand Could Be Made to Last, SRS (M).

Speech (S); published report (P); unpublished manuscript (M); special material (SM).

OWNERSHIP OF RURAL LAND IN THE SOUTHEAST. Roger W. Strohehn, Resource Development Economics Division. AER-46.

This study, undertaken in the fall of 1960, deals with the pattern of rural landownership in seven southeastern states. The characteristics of owners, acreages of various kinds of lands owned, methods of land acquisition, ownership rights, land use and transfer plans are tabulated.

THE DESERT LAND ACT IN MID-TWENTIETH CENTURY: ISSUES AND PROBLEMS. Clyde E. Stewart, Resource Development Economics Division. ERS-151.

This report sets forth some recent events and conditions that need to be considered if the Desert Land Act of 1877 and the present machinery for administering it are to be revised.

MEDIAN FAMILY INCOME AND RELATED DATA, BY COUNTIES INCLUDING RURAL FARM INCOME. Claude C. Haren and Robert B. Glasgow, Resource Development Economics Division. ERS-339.

This report provides median income data for 3,102 counties which can be used for designating farm and other areas for participation in the Area Redevelopment Administration Programs.

THE FARM INDEX

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